Title: "System And Method For Caching And Rendering Images Inventors: Andrew Cohen, Scott Crouch
Docket Number: SPAT.01USU1 Law Offices of William W. Cochran U.S.P.T.O. Customer Number: 27479 Phone: 970.377.6363

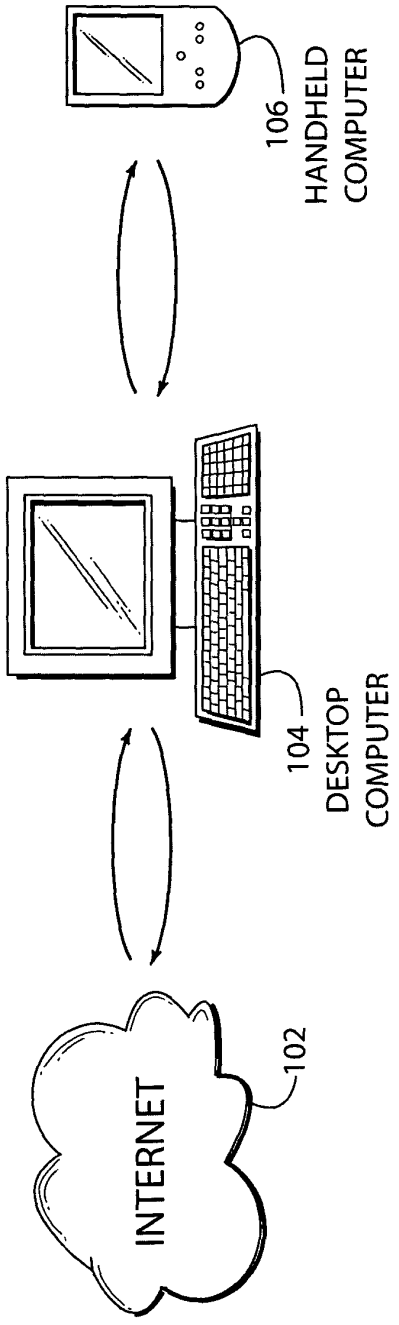

FIGURE 1

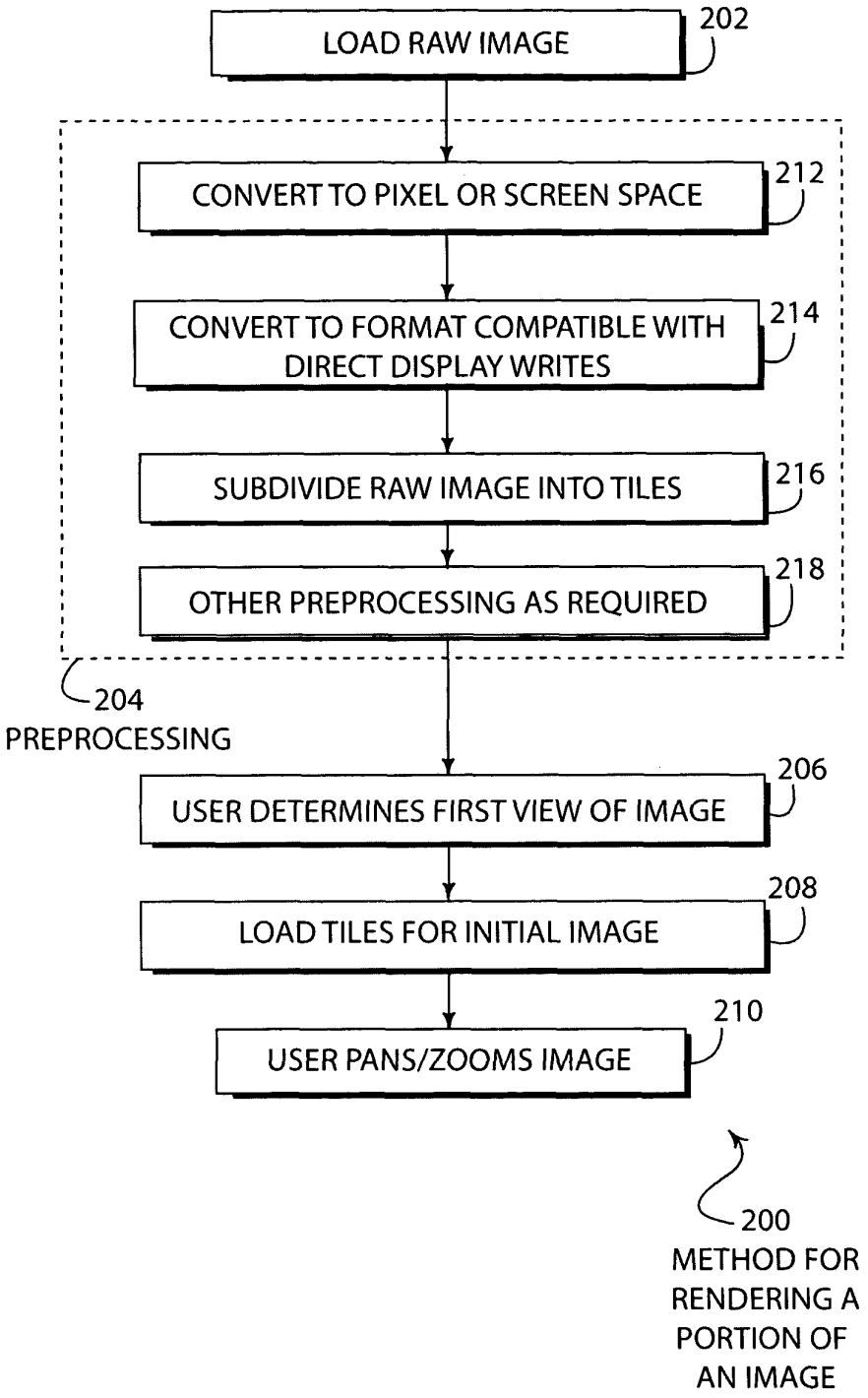
LOAD RAW IMAGE
202
CONVERT TO PIXEL OR SCREEN SPACE
212
CONVERT TO FORMAT COMPATIBLE WITH DIRECT DISPLAY WRITES
214
SUBDIVIDE RAW IMAGE INTO TILES
216
OTHER PREPROCESSING AS REQUIRED
218
204
PREPROCESSING
USER DETERMINES FIRST VIEW OF IMAGE
206
LOAD TILES FOR INITIAL IMAGE
208
USER PANS/ZOOMS IMAGE
210
200
METHOD FOR RENDERING A PORTION OF AN IMAGE

FIGURE 2

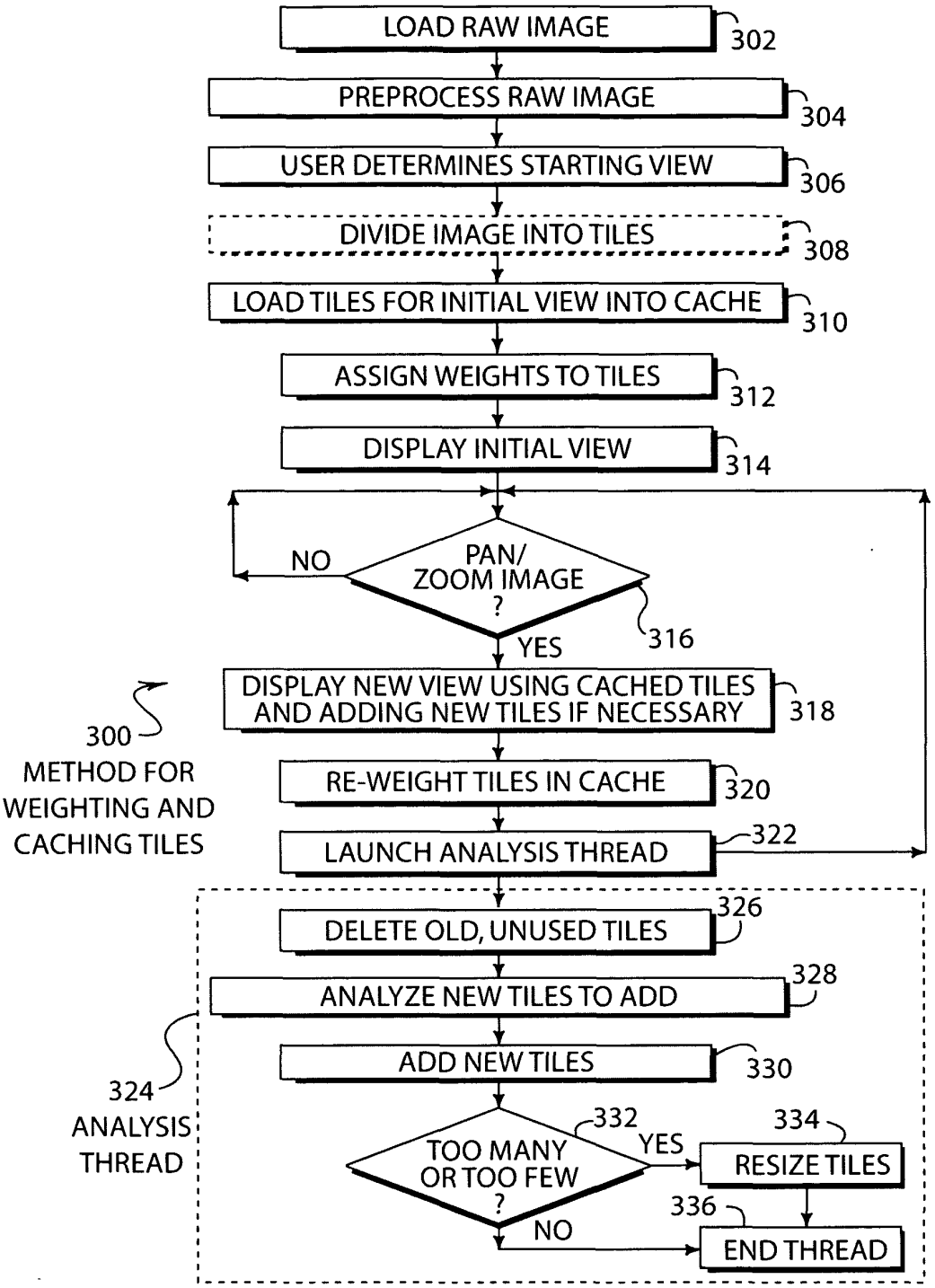
LOAD RAW IMAGE
302
PREPROCESS RAW IMAGE
304
USER DETERMINES STARTING VIEW
306
DIVIDE IMAGE INTO TILES
308
LOAD TILES FOR INITIAL VIEW INTO CACHE
310
ASSIGN WEIGHTS TO TILES
312
DISPLAY INITIAL VIEW
314
NO
PAN/ ZOOM IMAGE ?
316
YES
DISPLAY NEW VIEW USING CACHED TILES AND ADDING NEW TILES IF NECESSARY
318
300
METHOD FOR WEIGHTING AND CACHING TILES
RE-WEIGHT TILES IN CACHE
320
LAUNCH ANALYSIS THREAD
322
DELETE OLD, UNUSED TILES
326
ANALYZE NEW TILES TO ADD
328
ADD NEW TILES
330
324
ANALYSIS THREAD
TOO MANY OR TOO FEW ?
332
YES
334
RESIZE TILES
336
NO
END THREAD

FIGURE 3

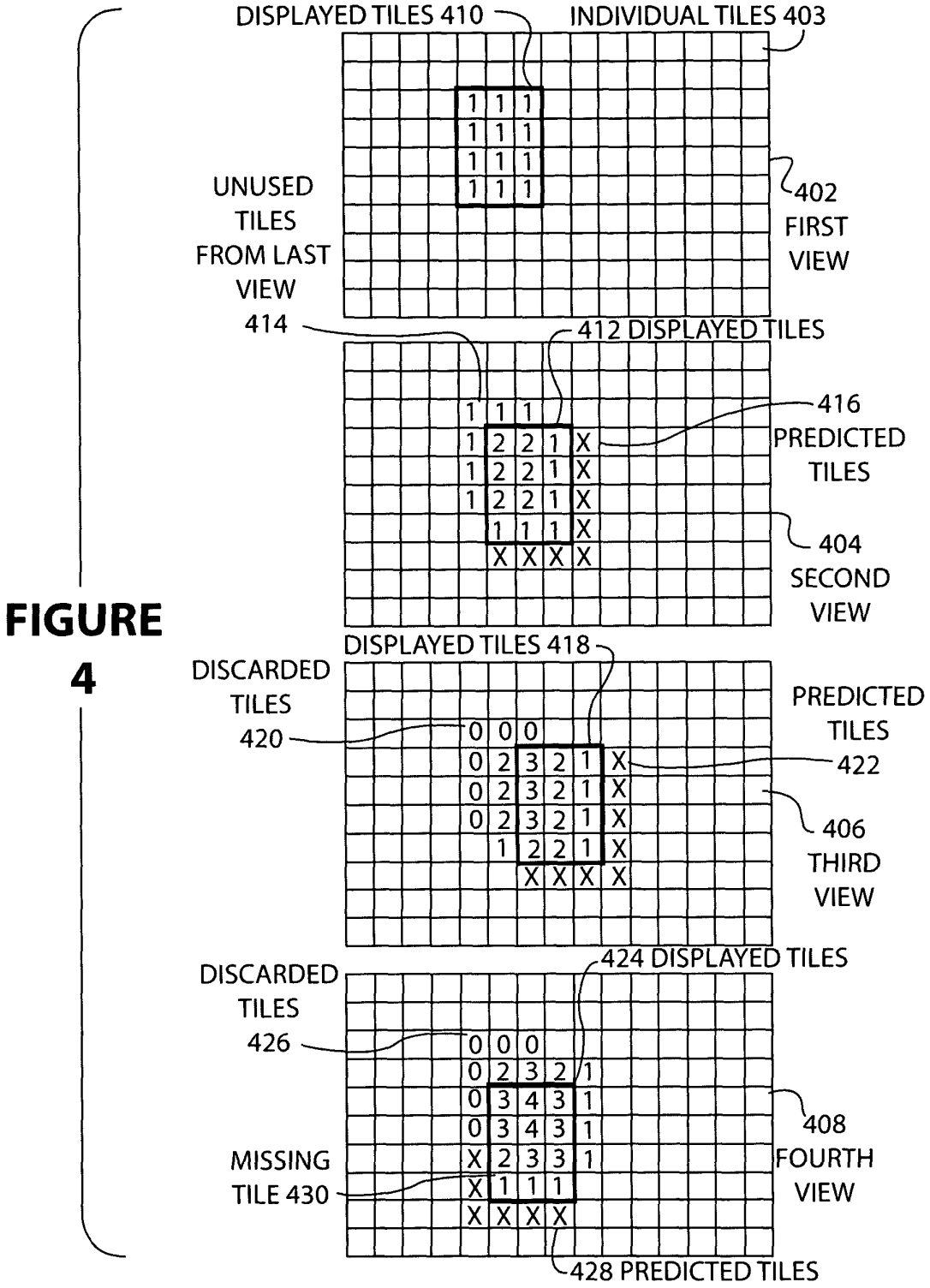
DISPLAYED TILES 410
INDIVIDUAL TILES 403
UNUSED TILES FROM LAST VIEW 414
402 FIRST VIEW
412 DISPLAYED TILES
416 PREDICTED TILES
404 SECOND VIEW
DISPLAYED TILES 418
DISCARDED TILES 420
PREDICTED TILES 422
406 THIRD VIEW
424 DISPLAYED TILES
DISCARDED TILES 426
MISSING TILE 430
408 FOURTH VIEW
428 PREDICTED TILES

FIGURE 4

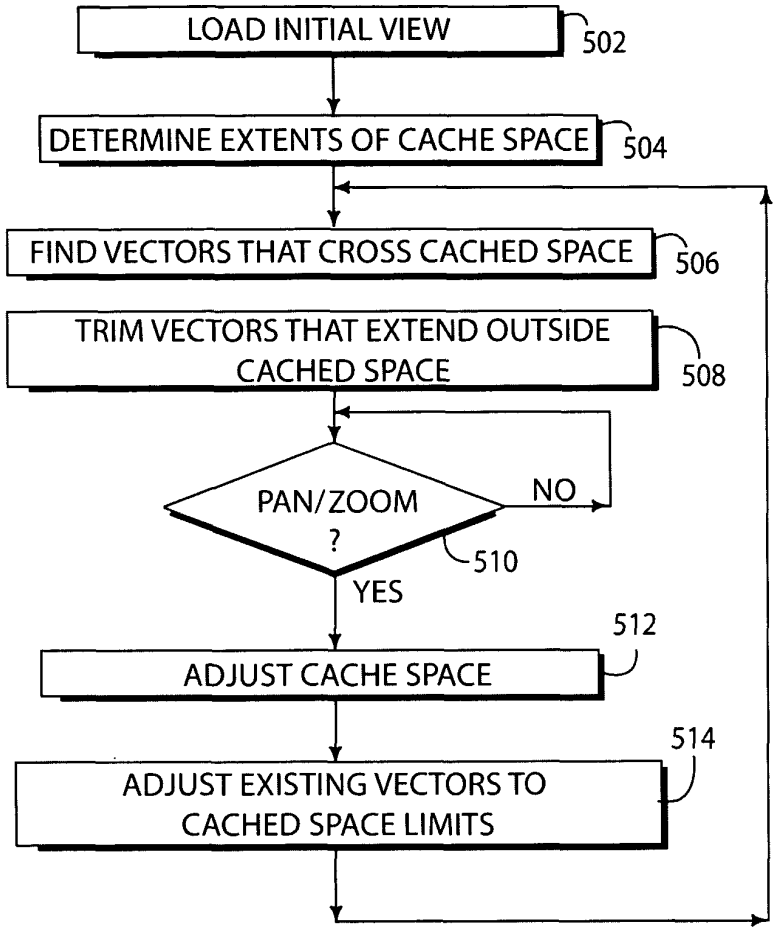
LOAD INITIAL VIEW
502
DETERMINE EXTENTS OF CACHE SPACE
504
FIND VECTORS THAT CROSS CACHED SPACE
506
TRIM VECTORS THAT EXTEND OUTSIDE CACHED SPACE
508
PAN/ZOOM ?
NO
510
YES
512
ADJUST CACHE SPACE
514
ADJUST EXISTING VECTORS TO CACHED SPACE LIMITS
500
METHOD OF USING VECTOR DATA IN CACHED SPACE

FIGURE 5

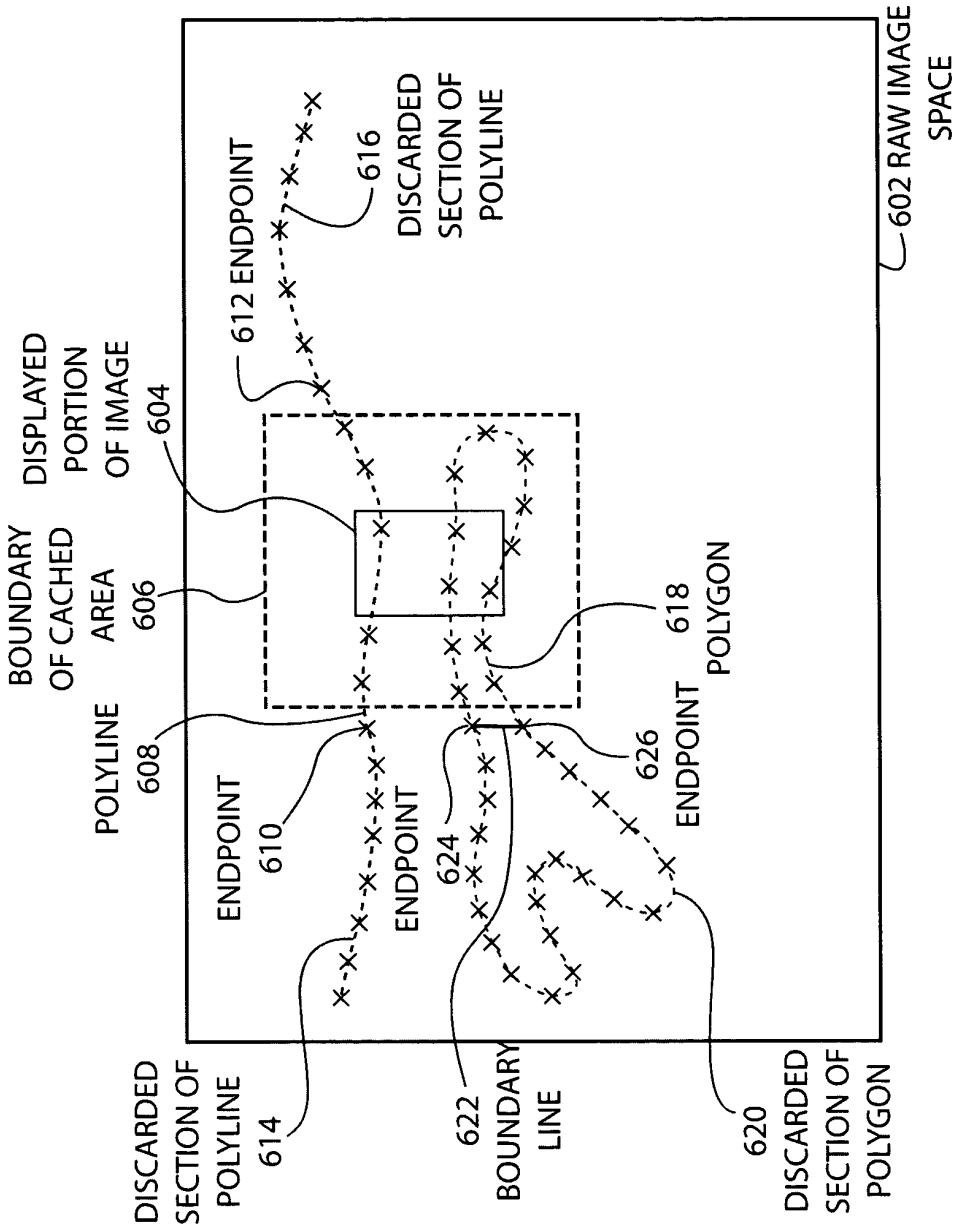
602 RAW IMAGE SPACE
612 ENDPOINT
616 DISCARDED SECTION OF POLYLINE
DISPLAYED PORTION OF IMAGE 604
BOUNDARY OF CACHED AREA 606
POLYLINE 608
ENDPOINT 610
ENDPOINT 624
626 ENDPOINT
618 POLYGON
DISCARDED SECTION OF POLYLINE 614
622 BOUNDARY LINE
620 DISCARDED SECTION OF POLYGON

FIGURE 6